

Water Contact Diseases

Leptospirosis – Wading, swimming, and other contact with water/mud contaminated with infected animal urine; an attack rate of 1-10 percent per month could occur among those swimming or wading in bodies of water.

- Threat year-round
- Symptoms – fever, chills, nausea
- Hospitalization of 1-7 days

Others: **Schistosomiasis**

Prevention – Do not swim/wade in unapproved water; wash skin and clothing after exposure to freshwater streams/ponds.

ENVIRONMENTAL RISKS

Short-term health risks

- Water contaminated with raw sewage
- Runoff containing fecal pathogens
- Urban air pollution primarily in Sao Paulo, Rio de Janeiro, and other large metropolitan areas

Long-term health risks

Ingestion of food or water contaminated with mercury

HAZARDOUS ANIMALS AND PLANTS

Venomous Snakes – Wide variety of well-camouflaged, aggressive, and harmless-looking species, including neotropical rattlesnakes, lancehead vipers, Colubrid snakes, coral snakes, bushmaster snake, and hog-nosed pitvipers are present countrywide; many have potentially lethal venom. If bitten, seek urgent medical attention!

Prevention – Do not handle *any* snake.

Scorpions and Spiders – Numerous countrywide; some scorpions have potentially lethal venom. Recluse, banana, and widow spider bites can be very painful or cause serious skin damage; large tarantulas that can launch stinging hairs are common. Seek medical attention if bitten/stung.

Prevention – Shake out boots/bedding/clothing prior to use; never walk barefoot; avoid sleeping on the ground.

Freshwater Animals – Many hazardous species are present: electric eels that can deliver paralyzing shocks; anaconda snakes that have drowned humans using constriction; and venomous catfish, flesh-eating piranhas, and large caimans/alligators that can deliver painful bites/stings and are greater hazards when their habitats shrink during dry periods.

Prevention – As tactical situation permits, avoid wading in freshwater ponds, lakes, and streams.

Hazardous Animals and Plants (Continued)

Forest Animals – Pumas, jaguars, and wild livestock will attack humans; large lizards can deliver painful bites; handling poisonous toads and dart frogs can result in death.

Prevention – Do not approach or disturb; use caution around watering holes, river/lake shorelines, and forested areas adjacent to human settlements.

Centipedes, Millipedes, Bees/Wasps/Ants – Large specimens, common even in urban areas, are capable of inflicting painful bites, stings, or secreting fluids that can blister skin; Africanized honeybees are common and will sting in great numbers.

Prevention – Shake out boots/bedding/clothing prior to use; never walk barefoot; avoid sleeping on the ground; do not approach or disturb wasp/bee nests; seek medical attention if bitten/stung.

Leeches – Common in marshes, ponds, streams, and rain forests; widespread on plant foliage during rainy season

Prevention – Wear DEET on exposed skin; as tactical situation permits, avoid wading in fresh or brackish water.

Marine Animals – Venomous stingrays, cone shells, sea snakes, jellyfish, sea nettles, sea urchins, sharp corals, and man-eating sharks are present along ocean beaches.

Prevention – Swim at approved beaches; do not handle; seek medical attention if stung/bitten.

Hazardous Plants – Abundant and widespread toxic plants can cause skin/lung irritation if touched/burned and poisoning if chewed/eaten.

Prevention – Do not touch, chew, eat, or burn unfamiliar plants; use clothing as a protective barrier for skin; wash contaminated skin/clothing after contact.

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DEPLOYMENT HEALTH GUIDE: BRAZIL



This country-specific guide should be used in conjunction with [GTA 08-05-062, U.S. Army Guide to Staying Healthy](#), and is intended to provide information that can help reduce your risk of Disease and Non-battle Injuries (DNBI) when deployed. This health threat and countermeasure information is based on the most current data available from U.S. Department of Defense medical agencies at the time of production. In addition to the information in this guide, you should also receive force health protection, health threat, and preventive medicine countermeasures training/briefings prior to and, as required, throughout the length of your deployment.

BRAZIL OVERVIEW

Location – Brazil is located in eastern South America and borders the Atlantic Ocean. Brazil is larger than the continental United States and makes up almost one-half of the total land mass of South America.

Climate – A majority of northern Brazil has a tropical climate with extreme highs near 95° F. In southern Brazil, temperate conditions prevail with extreme highs and lows of 105° F and 25° F. Most of Brazil experiences minor seasonal temperature changes except in the more temperate south.

Rainfall – Brazil receives 40 to 80 inches of rain annually. Rainfall is fairly evenly distributed throughout the year for most of the country.

Terrain – The Amazon Basin makes up more than one-third of the country and contains the world's largest rain forest. The Central Highlands, south of the Amazon River, cover most of Brazil and include a few mountain ranges. A narrow coastline extends along 4500 miles of Brazil's Atlantic seaboard.

Forces of Nature – High heat and humidity

RISK ASSESSMENT

Brazil is at **HIGH RISK*** for infectious diseases. Without force health protection measures, mission effectiveness will be seriously jeopardized.

*Based on a combination of all major infectious diseases that occur in a country, the Armed Forces Medical Intelligence Center (AFMIC) assigns an overall country risk level of low, intermediate, high, or very high risk, as compared to other countries.

INFECTIOUS DISEASES

Food-borne and Water-borne Diseases

Consuming contaminated food, water, or ice

Diarrhea, bacterial – An attack rate of over 50 percent a month could occur if local food, water or ice is consumed.

- Threat year-round; countrywide
- Symptoms – loose, watery or explosive bowel movements
- Recovery of 1–3 days with antibiotics

Hepatitis A – An attack rate of 1–10 percent could occur among unvaccinated personnel if local food, water or ice is consumed.

- Threat year-round; countrywide
- Symptoms – none to flu-like illness
- Severe, 1–4 weeks recovery, sometimes initially requiring hospitalization

Food-borne and Water-borne Diseases (Continued)

Typhoid/Paratyphoid fever – A potential attack rate of less than 1 percent among unvaccinated personnel consuming local food, water or ice

- Threat year-round; countrywide
- Symptoms – fever, constipation, headache
- Hospitalization of 1–7 days

Prevention – Consume only U.S. military-approved food, water, and ice; take **hepatitis A vaccine** and/or **typhoid vaccine**, if directed by medical authority.

Vector-borne Diseases

Greatest concern:

Dengue fever – High number of cases possible

- Transmission – day-biting mosquitoes
- Threat year-round; countrywide (including urban areas, especially along the coast)
- Symptoms – debilitating; high fever, severe muscle/joint pain, severe headache, rash
- Hospitalization of 1-7 days likely

Malaria – Significant number of cases possible

- Transmission – night-biting mosquitoes
- Threat year-round; variable distribution (highest risk in the north within states along the Amazon River)
- Symptoms – debilitating fever, chills, sweats; headache, cough, diarrhea, respiratory distress; shock, coma and death in severe cases
- Hospitalization of 1-7 days likely; prolonged recovery or death possible

Mayaro virus – Significant number of cases possible

- Transmission – night-biting mosquitoes
- Threat year-round; primarily in rural areas
- Symptoms – fever, joint pain, rash
- Hospitalization of 1-7 days likely

Leishmaniasis (cutaneous) – Significant number of cases possible

- Transmission – Sand flies, bite mainly at night
- Threat year-round; primarily in rural areas
- Symptoms – Non-healing skin ulcers that appear 1 week to 6 months following infection
- Not usually debilitating, but requires nonurgent evacuation often with prolonged inpatient treatment

Yellow fever – Small number of cases possible

- Transmission – day- and night-biting mosquitoes
- Threat year-round; variable distribution, both in rural and urban areas; highest risk in the interior, especially in jungle areas; low risk along the coast
- Symptoms – potentially very severe; sudden onset; fever, aches, prostration, vomiting; possible hemorrhaging and death

Vector-borne Diseases (Continued)

- Hospitalization likely, sometimes requiring intensive care; significant mortality in hemorrhagic cases

Others (rare cases to epidemic potential): **leishmaniasis** (visceral, sand fly-borne); Oropouche fever (mosquito-borne); **Rocky Mountain spotted fever** (tick-borne)

Prevention – **DEET** on exposed skin; **permethrin-treated uniforms**; **permethrin-treated bed nets**; **malaria prevention pills** as prescribed; **yellow fever vaccine** if prescribed.

Animal Contact Diseases

Rabies – Exposure to virus-laden saliva of an infected animal through a bite, scratch or through breathing airborne droplets; risk is assessed as well above US levels; vampire bats present the greatest threat.

- Threat year-round; countrywide
- Initial symptoms – pain, tingling, or itching from bite site; chills, fever, muscle aches
- Death likely in the absence of postexposure prophylaxis

Others: **Q fever**

Prevention – Avoid all animals; if scratched or bitten, seek medical attention immediately; get preexposure and/or postexposure vaccinations if prescribed by medical authority.

Respiratory Diseases

Tuberculosis – Breathing contaminated air droplets from other people (coughing/sneezing)

- Threat year-round; countrywide
- Highest threat from prolonged close contact with local populations
- Symptoms – none to cough, chest pain, breathlessness, night sweats
- Severe illness or death if not treated

Prevention – Avoid close contact with local populations; early detection/treatment reduces severity.

Sexually Transmitted Diseases

Gonorrhea/Chlamydia – Unprotected sexual contact with infected person; potential attack rate of 1 to 50 percent

- Threat year-round; countrywide
- Symptoms (in men) – none to burning sensation when urinating or discharge
- Symptoms (in women) – none to burning sensation when urinating and increased vaginal discharge
- Mild; outpatient treatment

Others: **Hepatitis B**, **HIV/AIDS**

Prevention: Abstinence; latex condoms; not sharing needles; **hepatitis B vaccine**, if directed by medical authority.